

Fall 2020

IE 355-103: Human Factors in Industrial Engineering

Harry Blanchard

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New Jersey Institute of Technology
Department of Mechanical and Industrial Engineering

IE 355-103 Human Factors in Industrial Engineering, Fall 2020
Class Schedule: Saturday 9:00 am – 12:00 pm -- Synchronous On-line

Instructor: Harry E. Blanchard, PhD
(732) 784-3857 heb@njit.edu Office hours: Please schedule via email

Lecture	Date	Topic	Readings
1	Sep 5	Introduction, History, & Systems Assignment: Practice Quiz	Ch. 1, Ch. 3: pp. 54-59 & 66-70
2	Sep 12	Methods Quiz 1: Canvas	Ch. 2, Ch. 3: Box 3.1 (pp. 71-72)
3	Sep 19	Human Information Processing Quiz 2: Canvas Assignment 1	Ch. 4
4	Sep 26	Visual & Auditory Perception Quiz 3: Canvas Assignment 2	Ch. 5, Ch. 7
5	Oct 3	Memory, Attention, & Mental Workload Quiz 4: Canvas Assignment 3	Ch. 9, Ch. 10
6	Oct 10	Decision Making + Exam Review Quiz 5: Canvas	Ch. 11, Ch. 12: pp. 325-326, Ch. 12: Box 12.1 (pp. 329-330)
	Oct 17	Midterm Exam	No weekly lecture, exam only

7	Oct 24	Static, Dynamic, & Auditory Displays	Ch. 8
		Quiz 6: Canvas	
		Outlines due: Email, 1 per group	
8	Oct 31	Controls & Tracking	Ch. 15,
		Quiz 7: Canvass	Ch. 16: Box 16.1 (pp. 441-442)
		Assignment 4	
9	Nov 7	Compatibility	Ch. 13
		Quiz 8: Canvas	
		Assignment 5	
10	Nov 14	Cognitive & Motor Skills	Ch. 14,
		Quiz 9: Canvas	Ch. 12: pp. 314-316
		Assignment 6	
11	Nov 21	Hand Tools, RSI, & Anthropometry	Ch. 16
		Quiz 10: Canvas	
		Prepare Projects	
12	Dec 5	Human Error, Accidents, & Warnings	Ch. 3,
			Ch. 19: pp. 545-548
	Dec 12	Project Presentation	
	Dec 19	Final Exam + Project Papers Due	

Textbook: Robert W. Proctor & Trisha Van Zandt (2008) *Human Factors in Simple and Complex Systems*, Third Edition. CRC Press ISBN 978-1482229561

- All required readings are in the textbook
- Yes, you need a copy of the textbook. Yes, you probably need the third edition.
- The text can be purchased or rented, also can be purchased or rented as a Kindle e-book

Evaluation:

- Midterm Exam – 20%
 - Lectures and reading up to exam day
 - Multiple choice and/or short written answer questions
 - Administered On-line
- Assignments – in total 20%
 - Will vary from thought papers, exercise, class discussions, and more
- Weekly quizzes – in total: 20%
 - All quizzes are taken on-line (Canvas)
- Final Exam – 20%
 - Second half of course
 - Multiple choice and/or short written answer questions
 - Administered On-line
- Project – 20%
 - Group project: groups of approximately 5 students
 - Topics reviewed via 1-paragraph written proposal (email or Canvas)
 - Proposals due after midterm (proposals are not graded)
 - Presentations on last day of regular class (one per group)
 - Each group must also submit a single combined paper
 - Grade is 50-50 combination of your paper and group presentation

I expect all students to follow the NJIT Student Honor Code (i.e. no cheating on exams); this is enforced.

Class Website:

Everything should be available on [Canvas](#) over time. (Lecture PDFs)

As a backup, all lectures and other materials are shared on my [Google Drive](#) (Google Slides)